problems and solutions



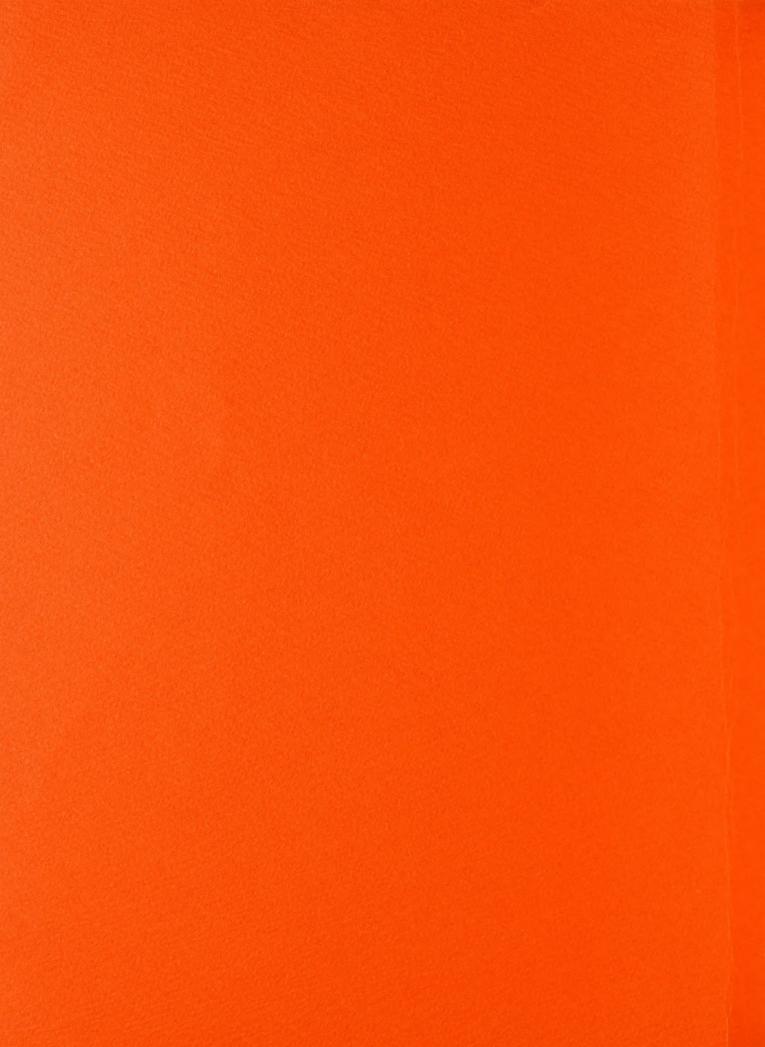
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Summary Report of the OAKLAND URBAN MASS TRANSPORTATION TECHNICAL STUDY (CAL-T9-5)

The preparation of this report was financed in part through a Federal grant from the Department of Housing and Urban Development under Section 9 of the Urban Mass Transportation Act of 1964, as amended.

DUP

GETTING TO WORK FROM WEST OAKLAND: PROBLEMS AND SOLUTIONS

An Analysis of Transportation Problems in West Oakland and Four Complementary Proposals for their Solution

City Planning Department
Oakland, California
January, 1970

OCPD 213

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CHAPTER I

INTRODUCTION

In the San Francisco Bay Area in 1966, four out of every 100 persons in the labor force are unemployed although they are actively seeking work. This unemployment rate matches the unemployment rate for the nation as a whole and appears to raise no special cause for alarm. Yet hidden in this statistic are some shocking variations from this average which demand attention.

In the City of Oakland, unemployment is double that of the region as a whole and in Oakland's poverty neighborhoods the rate is much higher still. A 1966 survey in West Oakland (See Map 1) found that more than 14 of every 100 potential workers were unemployed.

Unemployment is the result of a variety of causes, and solutions to unemployment must be equally varied. Basic education programs, job training, job placement, industrial development, individual counseling and aggressive enforcement of fair employment laws are all activities which are recognized and undertaken in dealing with the problem. Far less attention, however, has been given to consideration of possible transportation barriers to employment. To what extent does the unavailability of adequate transportation from home to work prevent workers from obtaining employment? If inadequate transportation is indeed a significant barrier to employment, what can be done about it?

This study has addressed itself to these questions using West Oakland as a case study. It has concluded that inadequate transportation has in fact prevented the employment of West Oakland residents in certain outlying areas and in some cases within West Oakland itself. It sets forth four distinct proposals for dealing with this problem.

Certain organizational aspects of the study are worth special note. While the study was undertaken by the City of Oakland, participation in the study involved four separate departments -- Traffic Engineering, Street and Engineering, Manpower, and

City Planning. In addition staff contributions were made by the Alameda-Contra Costa County Transit District, Bay Area Rapid Transit District, California State Employment Service and Oakland Economic Development Council, Inc., DeLeuw, Cather and Company performed as consultants.

Strong emphasis was placed on community involvement. A Transportation Commission consisting of 10 West Oakland residents was created to review the efforts of staff and provide policy guidance. The West Oakland Planning Committee (WOPC), a local citizens organization arranged to have two representatives from each of 120 block clubs in West Oakland attend a series of 24 small meetings (i.e., groups of 10) to obtain grassroots, viewpoints and suggestions.

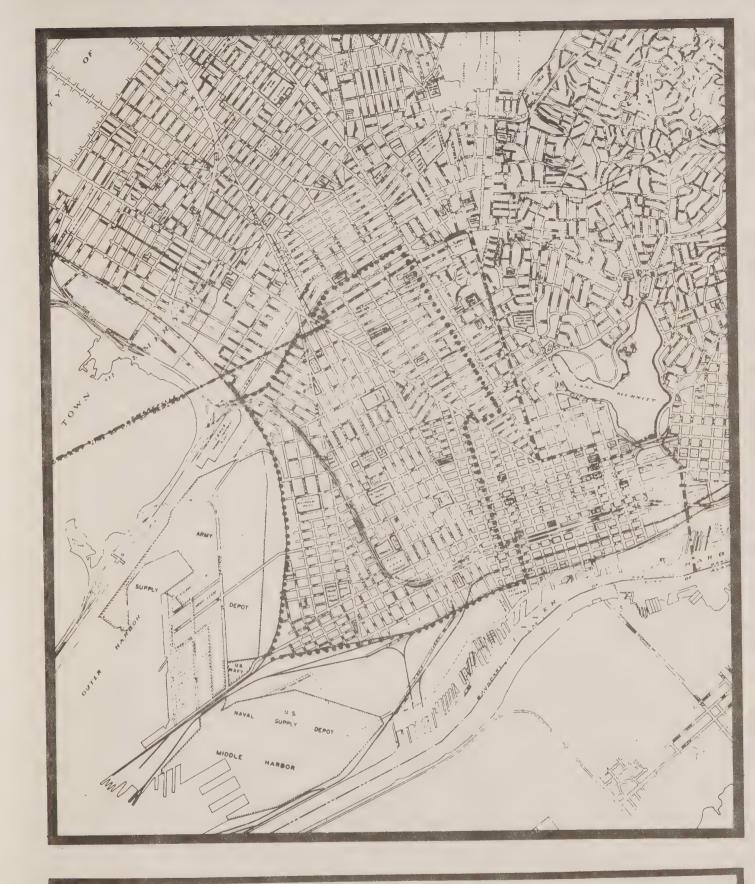
Much lip service is given to citizen participation in planning studies while few such studies actually engage citizens in a meaningful way. This study did. Indeed the proposals set forth could not have been made without the contributions of the residents of West Oakland.

This report will set forth the major findings and conclusions and the four specific proposals emerging from the study. $^{\rm l}$

Briefly, these proposals are to:

- 1. Reroute existing bus service in West Oakland to better serve the needs and desires of West Oakland residents;
- 2. Provide special express bus service from West Oakland to the rapidly developing employment center in the vicinity of Oakland International Airport;
- 3. Provide new mini-bus service within the West Oakland area to accommodate home-work trips for monthly subscribers, with off-peak service to various public and institutional facilities;

¹A series of five appendices give additional detail on study approach and proposals.



MAP OF WEST OAKLAND



URBAN MASS TRANSPORTATION TECHNICAL STUDY



4. Create a community - based transportation agency to fill the gaps unmet by public transportation through a series of innovative approaches to personalized transportation.

CHAPTER II

FINDINGS AND CONCLUSIONS

The study was undertaken in two phases (see Appendix I). The first, or survey phase, studies people, jobs and transportation to assess the extent of the problem. The second phase, or solution exploration phase concerned itself with identifying discrete problems and firming up solutions to those problems. The findings and conclusions of each of these phases are set forth below.

Survey Findings

Employee-Employment Resources. As of 1966 West Oakland had 1,320¹ unemployed men and 1,060¹ unemployed women resulting in male and female unemployment rates of 13.8% and 15.2% respectively. To reduce the West Oakland unemployment rate to the Bay Area average of 3.9% would require employing 1,818 persons. This in turn would require removing personal disadvantages of these persons and removing institutional and system obstacles to their employment (recognizing of course that some unemployment generating factors such as current antiinflationary federal policies are effectively beyond local influence).

There has been great and appropriate emphasis on programs to overcome the educational, training and job experience handicaps of the West Oakland unemployed. Nonetheless, available data suggests that a good number of West Oakland residents already qualify for a large proportion of the region's blue collar jobs. More than three quarters of the 1968-69 West Oakland Concentrated Employment Program (CEP) applicants had, or exceeded the education found by the East Bay Manpower Survey to suffice for 1/3 to 1/2 of the jobs in the major blue collar groups. While many jobs require experience, 48% to 68% of the openings in the major blue collar groups are entry level jobs, that is, requiring no previous experience. In addition, such jobs should

¹Unadjusted for seasonality.

open up with reasonable frequency since 3-4% of most industrial jobs "turnover" (i.e., are filled by "new hires") each month. Thus up to a third of the blue collar jobs in a given area might open up over the course of a year with up to 2/3rds being entry level jobs and a third to a half being within the educational qualifications of most of the Target Area Concentrated Employment Program participants.

Transportation Inadequacies. West Oakland has (1) the lowest degree of auto ownership in the city, with cars available to only 48% of the households as compared with 74.9% citywide, (2) a high dependency on transit, 27.0% of work trips compared to 19.4% citywide, and (3) an intense use of the autos that are available. The relatively low proportion of work trips by cars (57.0%) none the less exceeds the proportion of households with cars available (48.0%), while the converse is true in the rest of the city. This suggests that the area, though close to downtown is "transportation-poor" for many present destinations.

Aggregate Effect of Transportation Inadequacies.
Over 46,000 of the 192,253 blue collar jobs in the study area are outside of Alameda-Contra Costa County (A/C) Transit-served area (Map 2). Another 20,000 blue collar jobs in the A/C Transit District are more than a 1/4 mile from any line. In all, close to 66,000 of the Study Area's 192,253 blue collar jobs appear to be effectively unserved by A/C Transit, although some have service by Greyhound or Peerless Stages. Other areas have relatively slow, indirect service so that a majority of the jobs in the Employment Target Areas were more than 45 minutes away by bus:

Estimated	Less				
Travel	Than	45-59	60-90	91+	
Time	45 Min.	Min.	Min.	Min.	
% ETA Jobs	47.4%	22.2%	5.5%	24.9%	100.0%

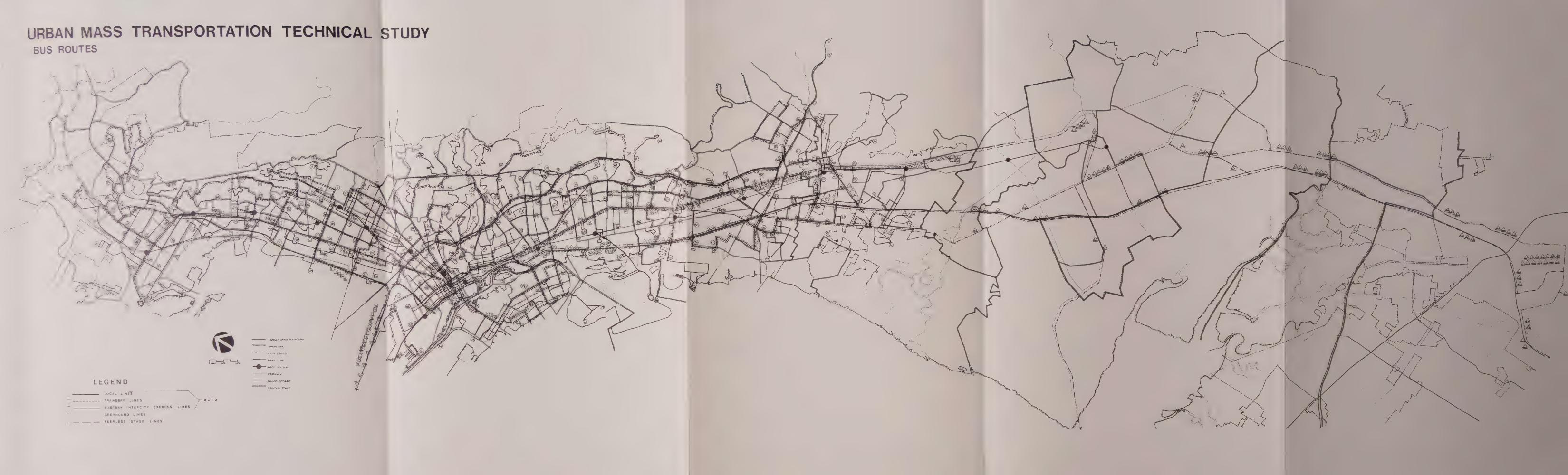
Though recently increased from \$.20/token to a flat \$.25 within the main A/C Central Zone, A/C fares

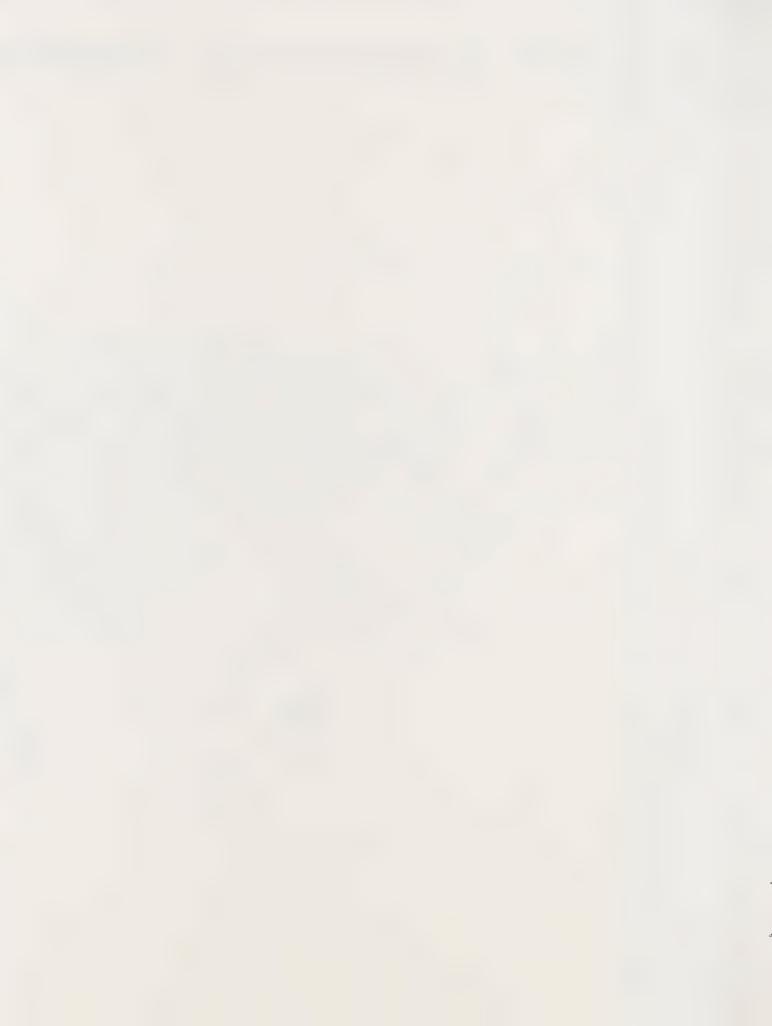
are not unusually high. Nonetheless, a trip the length of the district costs up to \$.50.

Fare levels probably are not as important as service levels. Yet lower fares might be helpful, especially for persons working part time or commuting long distances to relatively poor paying jobs. A/C's basic \$.25 rises to \$.35 as one crosses the zone line enroute to the Airport and other employment centers within East Oakland. It ultimately costs \$.50 to ride the length of the district to Hayward. More critical perhaps, are fares on trips combining A/C Transit and other carriers. Thus a combined A/C-Peerless trip to the Ford Plant in Milpitas would be \$1.60 and an A/C-Greyhound-connecting Jitney trip to the Mare Island Shipyard in Vellejo would be about \$1.50.

Examples of Practical Effects of Transportation Inadequacies. Local manpower staff members have indicated some practical effects of limited transportation. The Work Incentive (WIN) Program staff have been unable to make some placements in the Airport area due to limited service along nearby Doolittle Drive. The Opportunities Industrialization Center (OIC) reported a trainee having difficulty working at Sears in Hayward due to the lack of direct early morning service from either West Oakland or Downtown Oakland. Similarly the National Alliance of Businessmen (NAB) staff has commented that a lack of service into the Newark-Union City area has limited retention by NAB placees.

Less evident effects are the institutional ones, those where real or assumed obstacles limit the performance and operating practices of manpower agencies and affect the hiring requirement of firms. While few employers see transportation inadequacies as a problem to their recruiting efforts (since the area has no labor shortage) a good number require or request car ownership on their job orders, even on those job orders sent to the West Oakland Adult Opportunity Center (AOC), which is operated for the most disadvantaged "hardcore" unemployed.





A brief survey of 292 closed job orders (from firms) at the AOC indicated that 43 either explicitly stated a need for personal transportation or had locations judged to need transportation. Similarly early survey results obtained by State Department of Human Resources Development (DHRD) interviewers indicated at least 12 out of 50 interviews in which referrals were not made because applicants who seemed qualified lacked needed transportation. Further, the Oakland offices rarely get orders from the less accessible but rapidly growing areas south of mid-San Leandro. The jobs requiring transportation were scattered from West Oakland itself through East Oakland to the Airport area and San Leandro with a very few in Fremont at the General Motors (GM) plant. While many of the affected areas have some public transportation service, it is slow and indirect (e.g., a 1 hour A/C Transit trip from West Oakland to the Airport). In other cases service may be better than employers realize, and in some cases the Department refers autoless persons despite employers' stated preferences.

The openings in the closed order file were generally for males in service, laborer and operative (production worker) jobs with a few clerical openings. Pay was generally between 2 and 3 dollars an hour (68%) with about 20% below \$2.00/hour and about 12% above \$3.00/hour. Most (72%) were day shift jobs also, with 13% night shift and another 15% requiring ability to work any shift. This suggests that shift employment problems are of secondary importance. However, this may understate the problem, since many firms with primarily day shift employment have occasional overtime opportunities requiring early evening transportation from their firms.

A DHRD staff member has summarized apparent needs in saying that:

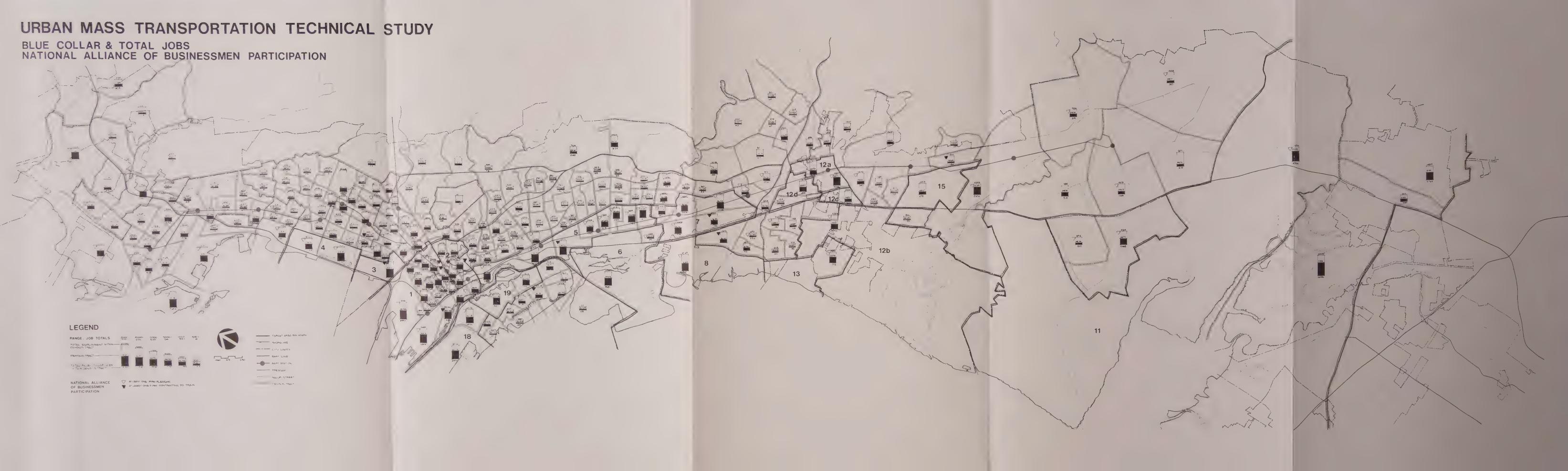
"It becomes increasingly apparent that distance and cost are a bigger hang up for applicants than actual lack of transportation. We have many job orders from San Leandro and East Oakland. Many of them do not pay any more than jobs closer in. On the

rare occasions that a really good wage offer is made, our clients will find a way to go as far afield as Fremont or South San Francisco. If free, or very inexpensive transportation were availble, we might fill some of the lower paying orders."

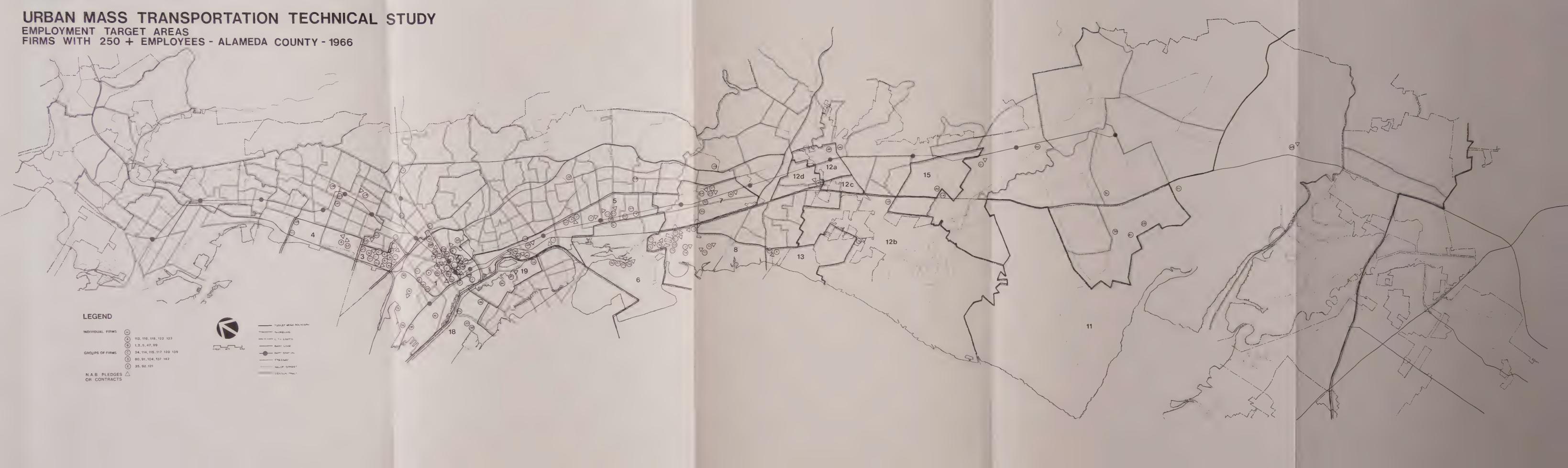
Transportation gaps limit other programs too. Thus, the On-the-Job Training program is limited to job development in close-in areas. Similarly, DHRD splits East Bay into at least four offices within which orders are solicited and placed, even though employed persons commute over the whole area. National Alliance of Businessmen program has the "local" offices, regardless of overriding regional patterns of need. Such invisible barriers may reflect employment service and employer assumptions about limited mobility along with probable employer preference for local people. At the same time, they reinforce transportation obstacles by institutionalizing the existence of two regional job markets; one which is area-wide for the more affluent auto driving, non-DHRD using, and one which is much more limited for the disadvantaged, non-driving, DHRDdependent unemployed.

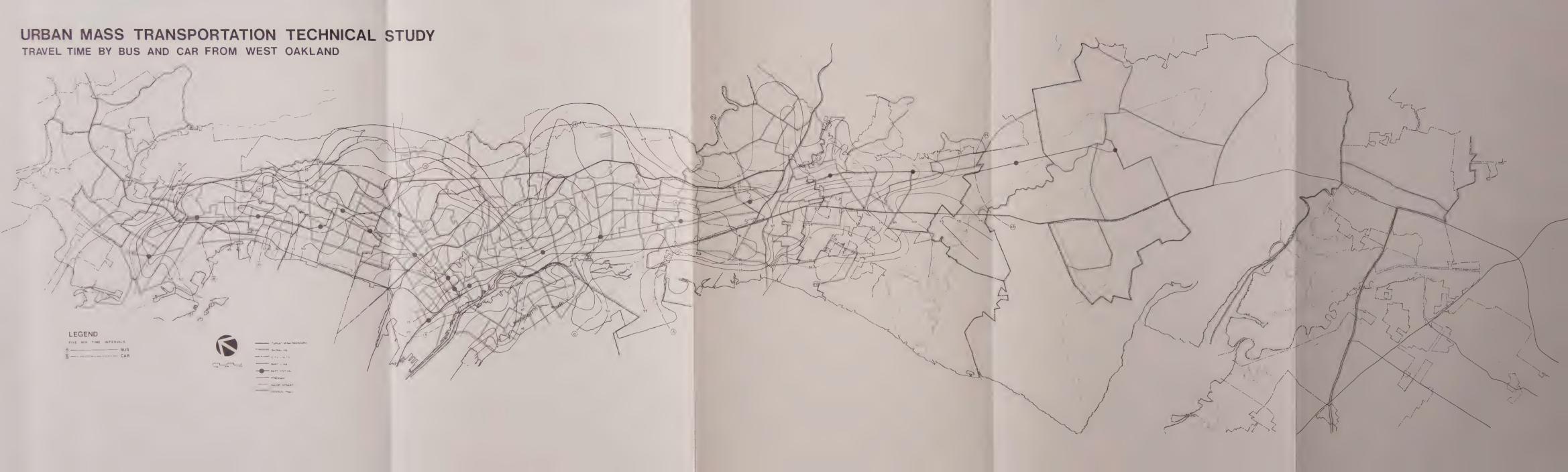
Survey Conclusions

Inadequate public transportation limits the range of employment opportunities open to unemployed West Oakland Residents by adding time and cost barriers to job seeking and commuting. An increasing number of the East Bay's relatively available, traditionally male, blue collar jobs are so far from West Oakland e.g., Southern Alameda County industrial parks (see Maps 3 and 4), or so poorly served (see Map 5), e.g., Oakland Airport, that a car is required for both job hunting or commuting. This problem is compounded by continued patterns of housing and employment discrimination which lead more Blacks than any other group to live in Oakland and commute out to jobs elsewhere, and by the fact that West Oakland has the lowest degree of car availability in the city. Such transportation barriers probably inhibit job hunting by the qualified. add further obstacles to the hardcore unemployed. and constrain operations of the various current publicly supported programs for basic education,









job training, job placement, supportive service and anti-discrimination. (Needless to say these programs are also constrained by institutional problems or poor coordination and restricted funding; the operation of the regional job market is further constrained by geographic fragmentation of National Alliance of Businessmen and DHRD operations.

Efforts to fill these transportation gaps may seem to be accommodating discrimination and industrial flight. Nonetheless, they should be made in order to:

- 1. Give the presently qualified job seekers access to the complete regional job market.
- 2. Expand the relevance of ongoing manpower programs by similarly increasing their geographic scope.
- 3. To remove transportation as a reason for not hiring a person who is otherwise qualified.

The Study has confirmed the supposition that transportation is a factor in the unemployment problem. It has also indicated a wide range of areas which have inadequate service. Improved service to these areas, if provided in conjunction with other programs (remedial education, skills training and effective affirmative action hiring) could help ease the remaining barriers to the disadvantaged unemployed. It would also expand the general job market open to West Oakland residents, particularly if accompanied by a systematic job order sharing at the various East Bay Department of Human Resource Development Local Offices. While these actions would not create new jobs, they would open up competition for existing jobs on a larger scale and remove many restraints which presently intensify competition for close-in jobs.

Solution Exploration Findings

Problem of greatest concern to West Oakland. Service to three specific areas was found to be of greatest concern to the Citizens' Committee, hence they selected the following three specific areas

and a fourth hypothetical area for further analysis and prospective service improvement (refer to Map 4 for boundaries of Employment Target Areas (ETAS)):

- 1. West Oakland West Oakland itself (ETA I) and adjoining Emeryville (ETA 3) were included since their outer, more poorly served areas above include over 45,000 jobs which might be made very accessible with relatively little added service. This reflects community feeling that the vast supply of nearby jobs must be made relevant before there is much purpose in seeking more remote employment. It also reflects interest in improving local service and in developing opportunities for local participation in the provision of service.
- 2. Airport and Industrial Park The Oakland Airport area (ETA 6) and adjoining East Oakland Industrial belt (ETAs 5b and 5c) were included since they contain areas of rapid growth which are quite poorly served considering their proximity to West Oakland and to main line A/C Transit service. ETA 6 was of prime concern because a large number of blue collar jobs are expected to develop there as a result of the infusion of a great deal of public money, both local and federal, for Airport and Port Industrial Park Development. Hence, it seem appropriate to remove any transportation barriers to employment in the area.

The adjoining ETAs 5b and 5c were included because they have over 16,000 jobs (about half blue collar), and they are situated between West Oakland and the Airport in such a way as to be well integrated into proposals for serving the airport. In addition, these areas seemed amenable to improvement by rerouting and additions to present service.

3. Southern Alameda County - Fremont and nearby Milpitas (ETA 11) contain auto assembly plants with well over 12,000 predominately male, well paying, quickly learned jobs. One of the firms, GM, moved from East Oakland only a few years ago. Despite the distance (25 miles), the type and number of jobs there led the Commission to feel that it should be studied further. It could be an anchor for improvements also serving intermediate points.

4. An area yet to be identified - Finally the Commission sought an additional area, one in which there are a great many firms which have stated to CSES or other job developing agencies that employees need their own transportation. The area was to be selected on the basis of an examination of DHRD job order files if possible, complemented by observations of Concentrated Employment Program job developers.

In all but the hypothetical fourth area, significant numbers of National Alliance of Businessmen (NAB) pledges were known to exist, and, as it turned out, data was not available to pursue the last problem area, and it was dropped from consideration.

Some rapidly growing areas in the intermediate area from San Leandro to Hayward to Union City and Newark were omitted from consideration. Lessons learned serving the areas chosen, however, will help determine the need and form of improvements in these intermediate areas. For example, any efforts to serve the Oakland International Airport or East Oakland by tapping into freeway expresses or into Bay Area Rapid Transit District (BART) trains later on could be useful in serving the intermediate destinations in Southern Alameda County in the future. And service developed to Fremont and Milpitas might well serve some intermediate points as well.

Criteria for Solutions. Of the criteria established (See Appendix II) to insure that transportation solutions both met the needs uncovered and reflected the desires of the community in meeting these needs, the criteria associated with the Institutional Framework (e.g.: Who runs it) and the Objectives of the System (e.g.: Why is the service provided) were found to be of greatest significance. The numerous criteria associated with the Quality of Service ranked an overall third in significance. Among the criteria associated with Quality of Service, limiting the walking distance to 1/4 mile was most important, followed by maintaining the fares low and flexible enough to prevent fares from becoming an obstacle to employment. Flexibility in scheduling and routing were also found to be of real significance in developing solutions.

Applicable Solutions. General families of solutions were thoroughly discussed along with more detailed information on possible programs offering Federal financial aid. The various families of solutions were evaluated in terms of the transportation needs selected and the criteria developed. It was found that many of the transportation needs within the immediate West Oakland community were susceptible to solutions through modification of existing A/C Transit services. The remaining hard to serve areas appeared to need more flexible service. For instance, a mini-bus might zig-zag through the area in the morning and afternoon peak hours picking up passengers by prearrangement or at established points not on any established route. For service to the Airport-Industrial Park complex, it was felt again that the extension of A/C Transit service was a reasonable approach. The second possibility was the operation of a special charter bus. In the case of service to the General Motors assembly plant, the operation of buses with employee-drivers seemed appropriate depending on the volume of workers; however, if volume was not sufficient or sustained, individualized solutions would be necessary. Thus, serving a large employer or scattered employers effectively seemed to call for a service capability only offered through some unified agency with a great variety of transportation resources.

In effect, the Citizen's Committee had narrowed the solutions for further study to 3 basic types:

- 1. A/C or non-A/C operated regular passenger buses,
- 2. variable route mini-buses operated by the community,
- 3. a unified agency which would develop, incrementally, the transportation resources necessary to serve identified needs within its ability to sustain or subsidize such services.

Solutions for Implementation. Personal experience as well as the experience resulting from efforts to get the community involved in the Model Cities process brought a renewed awareness of the need to make this study more than just "another study" in

the eyes of the community. This may have been the single most important consideration for giving top priority to solutions that could be implemented with the least delay, even though this meant that the community based transportation solutions which were developed and enthusiastically endorsed had to take third and four priorities, while first and second priorities were given to solutions which called for extension of A/C Transit service.

First priority was given to improving A/C Transit service within the immediate West Oakland area. The service improvements were aimed at service inadequacies observed by the staff and confirmed in the meetings held throughout the community. Second priority was given to developing a proposal for a new line from West Oakland to the Airport-Industrial Complex which might be financed in part by a Service Development Grant from the Department of Transportation (DOT). Third priority was given to developing a proposal for a variable route mini-bus that would fill gaps in the hard to serve West Oakland-Emeryville crescent. The fourth priority was given to describing and laying the ground work for a community based transportation service conglomerate which could be developed and refined by the Model Cities Employment Committee and the staff of Model Cities to provide a wide range of transportation resources. These resources once developed were to be made available to the job-matching agency.

Solution Exploration Conclusions

<u>Service Needs</u>. The following patterns of needs exist:

- 1. Better service is needed to nearby areas of established industry to increase job choices and capitalize on other public investments. This implies improved, though not necessarily innovative, service to the Port of Oakland's marine and airport facilities and the surrounding industrial areas.
- 2. Multi-purpose, flexible, immediately implementable, innovative proposals are called for to fill local service gaps for work and other trip needs in and around West Oakland.

- 3. Service to the most major outlying opportunities like Fremont and Milpitas is needed to capitalize on the concentration of potential jobs.
- 4. Capacity for flexible personalized service (e.g.: "rides of last resort") should be developed to ensure that no one misses job interviews or initial work opportunities for lack of short term transportation.
- 5. Transportation to scattered sites with dispersed employment will be necessary in the longer run.

Service Guidelines. The following general conclusions were reached regarding the provision of service:

- 1. Regularly scheduled buses alone cannot be expected to solve all the problems identified by the Community.
- 2. A large variety of transportation resources must be developed to meet the needs established within and beyond the areas selected by the Community.
- 3. Sufficient public subsidies will not be available over a long period of time to support operating costs, at least in the immediately forseeable future.
- 4. Community sponsored transportation resources and services, if proposed, must complement public transit operations.
- 5. Solutions which generate transportation resources can and should generate job training if community sponsored.
- 6. Return on investment in community sponsored transportation resources may not be feasible, and such services may well have to be subsidized by other transportation related enterprises aligned with the provision of transportation resources.
- 7. Job placement and transportation needs of the unemployed must be met at one location to be effective; transportation resources, however, can be developed separately.

8. If BART is ever to be useful to the low income, central city dwellers, service from BART stations to dispersed employment sites must be provided; however, the economics of this service is questionable with present passenger bus routing and scheduling. New flexibility is needed in this feeder service.

CHAPTER III

PROPOSALS AND RECOMMENDED ACTIONS

Overall Strategy

The preceeding conclusions led to the overall strategy embodied in the final proposals. That strategy was to maximize the use of public transit where possible as the first immediate step toward overall improvement of transportation, while a broad spectrum of solutions is developed to fill the gaps that cannot be met by public transit under the present organizational structure and technological state. The community chose to undertake the latter, more difficult task, as it is the community that feels the immediacy of the unmet service needs, and under the Model Cities Program, the community has a vehicle for implementing solutions in an environment free of any entrenched interests or preconceived notions based on unsuccessful past experience. In essence, the lack of experience may give birth to a wider variety of possible solutions, and in this era of technological and scientific innovation this might make seemingly impossible things possible. Starting small is also a key part of the strategy. The proposal for a variable route mini-bus (Proposal #3 described below) would set the stage for a possible community-based transportation service conglomerate (Proposal #4 described below). The corporate structure developed for the mini-bus proposal would provide the foundation upon which to build and test new ideas. If one proposal fails, another can be tried, but always on a small scale. There is room for flexibility; the total concept doesn't collapse if one of the components fails, and any improvement achieved is an improvement over the existing situation.

One aspect of the provision of transportation resources has not been covered to this point, that is publicity for the proposed solutions. In preparing solutions for implementation, this will be a major factor. This has been proven in several of the Demonstration Grant Projects across the country. Public Relations firms have been brought

in to package and sell the "product" (e.g.: transportation resources). This approach is a necessary and effective way of achieving communication with the potential transportation user. Just how this important publicity function will be financed and accomplished is another problem that will be passed on to the Model Cities Agency.

Proposals .

Four complementary proposals for resolving the overall transportation problem in West Oakland are described below, along with the actions taken or to be taken to lay the ground work for implementation.

A/C Transit Route Changes Within West Oakland

The essence of this proposal is to spread the existing routes around West Oakland to achieve better coverage and eliminate the existing traditional radial pattern of service that focuses on the Central District. The total number of route miles will increase only slightly and perhaps one additional bus run will be required. For the most part, however, existing equipment and drivers can be used to accomplish the changes recommended.

Map 6 shows the present and proposed routes in the West Oakland area. Specific route changes proposed are described in Appendix III. This proposal tries to optimize the effectiveness of existing A/C Transit routes and service. The proposed service improvements are also designed to complement and tie into the proposal for a new A/C Transit line serving the Oakland International Airport from West Oakland (See Proposal #2 which follows), and consequently the proposed route changes feed into such a service without duplication. To the extent possible, the route change proposal have anticipated the operation of BART, hence these lines should not have to be modified substantially when BART becomes operational in the next two years.

The changes described above will have to be effectively communicated and be given wide-spread distribution within the West Oakland Community. The

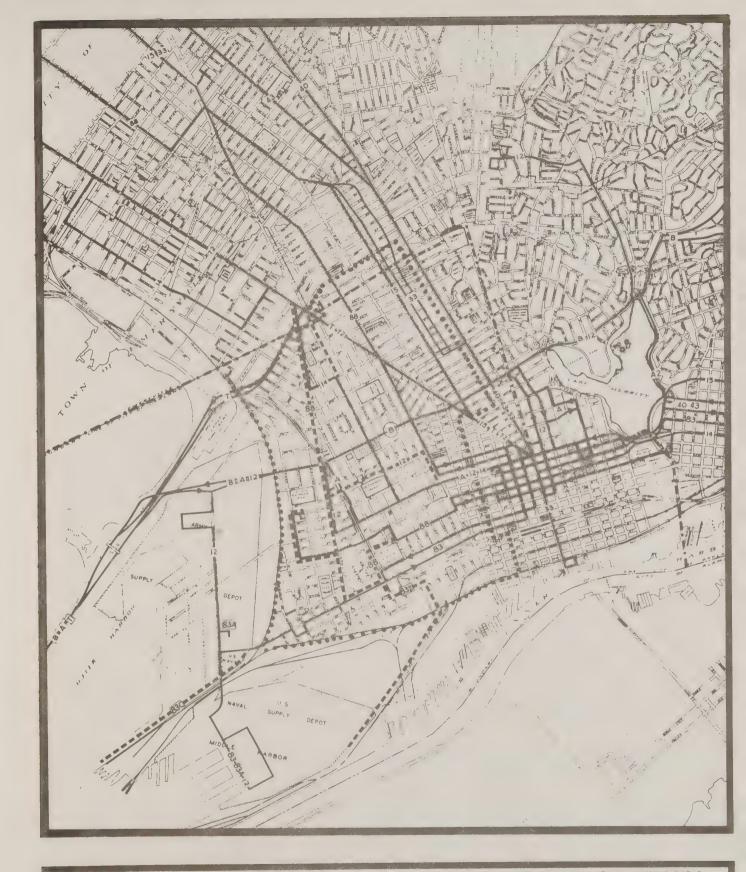
Model Cities staff must be brought in at an early date to maximize the effectiveness of these changes. The above proposal has been submitted to the A/C Transit District through their study representative for their evaluation and action.

A/C Transit Service Extension to the Oakland International Airport

The proposed A/C Transit extension developed to serve the Oakland International Airport from West Oakland consists of three segments. The first provides local service with frequent stops within West Oakland and in the Central District. The second segment is a freeway express, entering the Nimitz Freeway at Oak Street and leaving it at 29th Avenue where the third segment begins. The third segment could have at least two alternative routes from this point. The first might proceed through an extensive industrial subdivision and the Port of Oakland Industrial Park and on into the general aviation facility (the old airport) before continuing on to the new commercial air passenger terminal. The second alternative might serve San Leandro Street, a street developed almost exclusively with commercial and industrial firms, and its prolongation into the City of San Leandro, which has a fast growing industrial cluster abutting Oakland. Map 7 shows the two proposals.

Both routes appeared promising as viable transit routes for A/C Transit operation. Consequently, it is proposed that direct service be provided on the first route alternative with shuttle service commencing at High Street on the second route alternative when developing the Service Development grant application. (Specifics of the route are contained in Appendix IV.)

A survey of employers in this area was undertaken to determine initial ridership on this line. Information on sex, shift hours, and place of residence of employees were analyzed to establish the proposed scheduling and number of buses required and to estimate the potential patronage on such a line.



EXISTING AND PROPOSED A/C TRANSIT ROUTES WITHIN WEST OAKLAND

MODEL NEIGHBORHOOD BOUNDARY TARGET AREA BOUNDARY EXISTING ROUTE PROPOSED CHANGE LINE (No.)

12, A



URBAN MASS TRANSPORTATION TECHNICAL STUDY



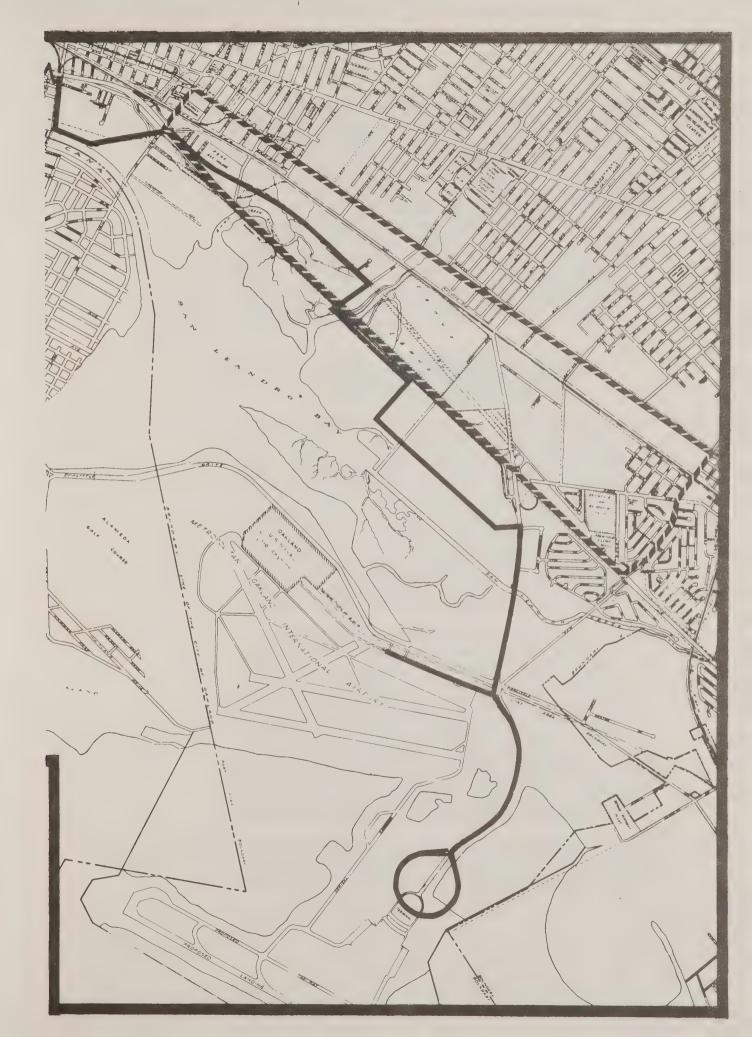




A/C TRANSIT SERVICE EXTENSION PROPOSAL -WEST OAKLAND TO OAKLAND INTERNATIONAL AIRPORT AND ADJACENT INDUSTRIAL AREAS

WEST OAKLAND-AIRPORT ROUTE







Job development and placement agencies (WIN, NAB, OIC, Urban League, DHRD), and the DHRD Adult Opportunities Center (AOC) were asked to review the proposal, comment on its applicability to their programs, and suggest any changes that might enhance its value to them. A preliminary application for a Service Development grant from the Department of Transportation has been prepared which the A/C Transit District has promised to submit for review. It anticipates that the A/C Transit District will assume the 10% local share for this application. If favorable response is received, a formal application is likely to be submitted by A/C Transit District in the near future.

Multi-purpose Variable Route Mini-bus within West Oakland--MuVR

Because of the mixed land use, layout of the street system, and the consequent dispersed ridership in the northern, east-west corridor of West Oakland, a more flexible means of routing and scheduling transportation seems essential if better service is to be provided. The proposal developed would provide for a service which differs in orientation between peak hour and non-peak hour operation. In the morning and late afternoon, the line would be oriented to employment trips; during the remainder of the day, it would provide service to medical, welfare, recreational and shopping facilities.

For service to and from work mini-buses with 15+ capacity would navigate through a wide corridor (See Map 8) stretching from Middle Harbor Road to possibly 64th Street in and about the vicinity of Adeline Street. The majority of riders would be monthly subscribers, who would enjoy nearly door to door service. Other riders with changing shifts and sporatic demand for service in this corridor could call in before a scheduled run begins and be picked up at an agreed upon point. Other riders could be picked up at advertised fixed points within the corridor in the morning and afternoon.

During the off-peak hours, a second corridor could be established which would be oriented about a series of service facilities, perhaps tied at one end to the West Oakland Health Center and at the other by the Kaiser Hospital. (See Map 9). A number of retired persons are located in the area who have no convenient means of travel to welfare, medical, shopping, or recreational facilities. Ridership would be developed as much as possible on a regular subscriber basis (perhaps weekly or biweekly). As with the case of employment oriented runs, the bus would pick up riders at advertised fixed points within the corridor; however, it is anticipated that riders would, for the most part, call in before run time, requesting service.

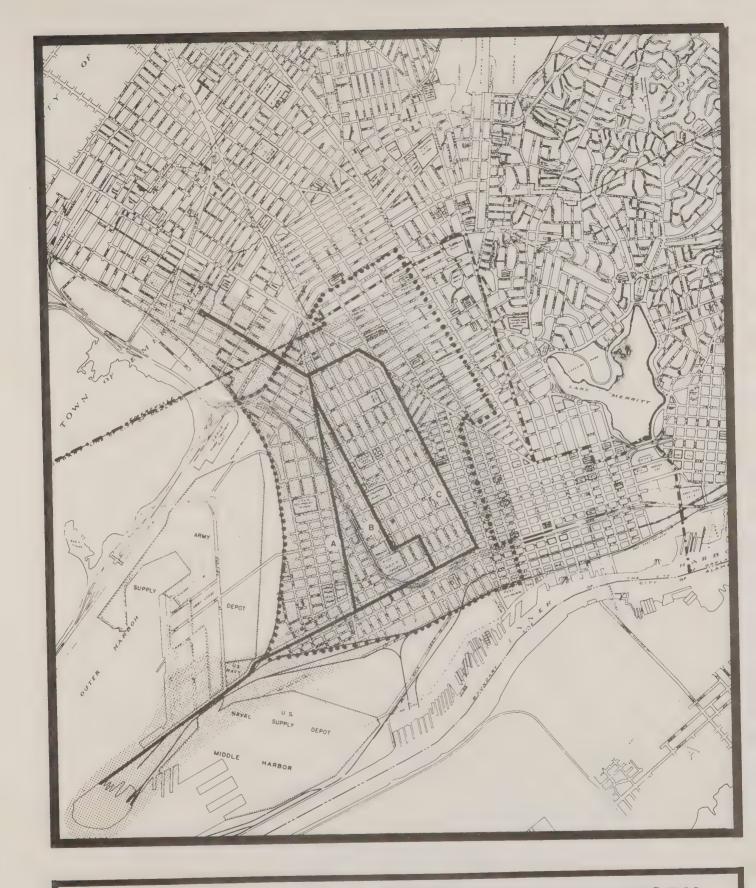
As conceived here, a non-profit community based transportation corporation would operate this service. Full time and part time drivers could be recruited from the community. The community transportation agency would maintain an operations center to receive calls and give instructions to the drivers via two-way radios before each run through the corridor. Details of this proposal are contained in Appendix V.

The services provided would seek to complement A/C Transit service as A/C Transit can not justify providing this level of service over this area with regularly routed buses. Some A/C route changes may be necessary; they will have to be carefully considered by A/C Transit as this proposal develops. They would very likely affect the route changes proposed in Proposal #1, but as a great deal of ground-work and delay is anticipated in launching this proposal, this is not seen as a conflict.

Federal support may be sought for initial set-up and operating costs. A great deal of work is still required at the community level, however, before such a project is undertaken, but with the progress now being made in the Model Cities Program, it may be possible to move ahead on this proposal in the near future.

Proposal #4 Community-based, Non-profit Transportation Conglomerate

The fourth proposal is by far the most complex and innovative. At the same time, it comes closest to



VARIABLE ROUTE MINI-BUS PROPOSAL-WORK CORRIDOR

PROPOSED ROUTE

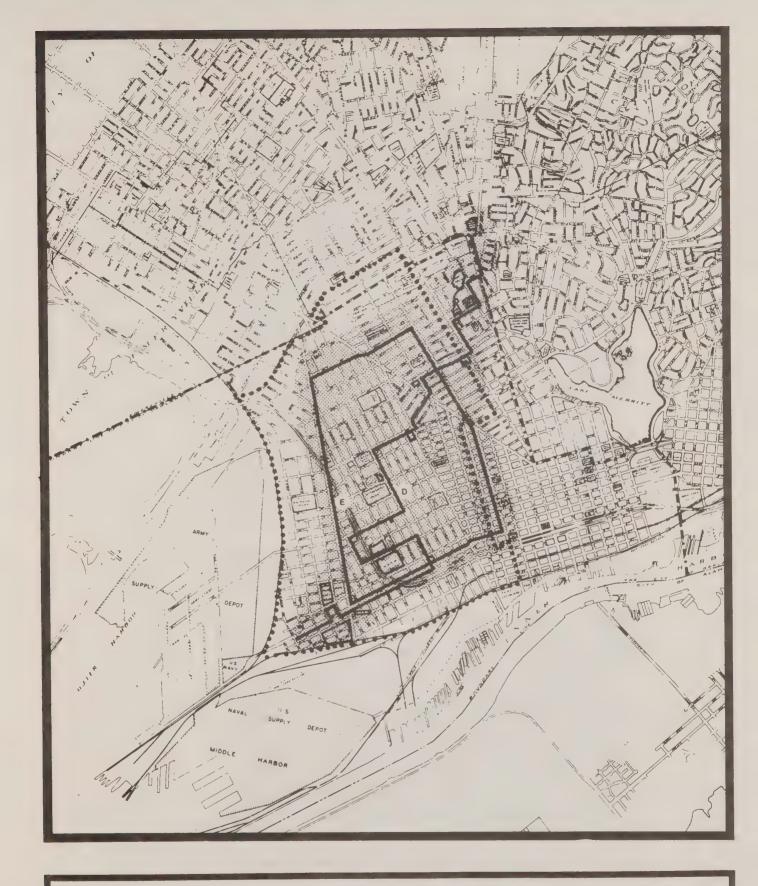
MODEL NEIGHBORHOOD BOUNDARY

TARGET AREA BOUNDARY



URBAN MASS TRANSPORTATION TECHNICAL STUDY





VARIABLE ROUTE MINI-BUS PROPOSAL-COMMUNITY SERVICE CORRIDOR

PROPOSED ROUTE
MODEL NEIGHBORHOOD BOUNDARY
TARGET AREA BOUNDARY







coming to grips with the total problem of transportation inadequacies for which existing public transit is unsuited. The Community would seek to establish a possible means of transportation to specific job openings within a 45 minute auto travel radius. To achieve this goal, a community based transportation service conglomerate (a transportation agency for short) is proposed. The word conglomerate simply indicates that the transportation agency would undertake a variety of activities. Some of these transportation related activities would be undertaken to generate surplus funds to support the provision of the transportation resources. The services would grow incrementally. with new transportation resources being added as they could be developed and proven. The objective would be to develop and maintain the wide variety of transportation resources necessary to meet the individualized needs of the unemployed as they were matched with jobs, as well as to meet the transportation needs of the low-income employed. These service improvements are meant to complement existing A/C Transit service, and where transportation demand developed to a certain magnitude and consistent volume, A/C Transit would be encouraged to provide regular passenger service.

The transportation agency would of necessity work very closely with the job matching agency described later.

In its ultimate development phase, the transportation agency might acquire, repair, and make a wide range of vehicles available through the job matching agency on a group basis or even on an individual lease-purchase plan to serve even the most dispersed job sites. By necessity, initial capital outlay of the transportation agency must be minimized, and incremental growth must be encouraged. To implement the proposal, it is anticipated that a number of funding agencies would be tapped for loans and grants. The initial focus would be on the journey to work, but as time passes, it is hoped that this focus can be broadened to serve

 $^{^{1}}$ An extension of criteria #6, Appendix II.

all unmet travel needs. Similarly, the initial geographical focus of the project is on West Oakland-oriented service improvements, expanding to City-wide service as success permitted (see Appendix VI for a detailed description of this proposal).

The community non-profit corporation presupposed in this solution would be open to all Oakland residents. Low cost shares could be sold to generate a small amount of working capital, with the main purpose of getting citizens committed to the program. Experienced businessmen both active and retired would be sought to give leadership and knowhow to the project. There is a Black Management Personnel Register which could be tapped to get qualified black executive personnel for the administration of the project. DHRD Adult Opportunities Center personnel may be able to provide leads on qualified operating supervisory personnel to head up the technical aspect of the project.

The development of these transportation resources offers possibilities for creating new opportunities for training as well as employment. Obviously there is a great deal of spin-off in terms of developing trained drivers and maintenance personnel for A/C Transit and other transit companies. Clerical positions and jobs for the underemployed in middle management and supervisory positions would also be created within the transportation agency itself.

The development of these resources is not without risks and uncertainties, and consequently, existing agencies are normally unable or unwilling to undertake such risks. The community, who stands to benefit from such improvements, however, may be willing and able to undertake such a project without a requirement for immediate or even a probable return on investment, dollar-wise. Creation of jobs, training resources, and transportation resources would be sufficient initial payoff.

The proposal for a community based conglomerate has been described to the Model Cities staff and members of the Employment and Physical Environment Committees. It is anticipated that these committees will maintain a continued interest in this proposal and pursue the establishment of this conglomerate transpor-

tation service corporation. There is every indication that this program will become a high priority item in the coming months.

Meshing Transportation and Job Resources

It has been determined that to be effective, individualized transportation must be made available to those who are placed in new jobs. As described here, the transportation agency is separate from the job-matching agency but complementary to it. The transportation resources generated in all of the preceeding proposals are to be made available to the job-matching agencies so they have the maximum range of resources to draw upon to meet the individual needs of the "new hire."

The precise tie-in with the California State Employment Service Adult Opportunity Center (AOC) is still to be resolved. The Adult Opportunity Center (AOC), however, would appear to be the most logical agency to play the major role in coordinating jobs. people and transportation. The AOC then would assume the added responsibility of matching suitable transportation to the job package. There are other job placement agencies, NAB, Urban League, WIN, OIC, etc., which would have to have access to the transportation resources developed, but because of the volume of job placements accomplished and the fact that most other job placement agencies have contact with the AOC, major emphasis would be given to serving the AOC. The job matching agency would have information on the service available from the transportation agency, except for the specifics of bus service, but specific arrangements would have to be worked out in almost every case to accomodate the needs of the individual placee. In many cases a call would be made to determine if A/C service was available to meet shift times, etc. If not, the best available alternative mode of transportation would be arranged. In some cases. where the agency had no appropriate transportation resources, the applicant would be referred to another job, as is the case presently. It may be possible that the AOC could contract with the transportation agency to provide transportation to job interviews on an annual basis. It may be that the AOC would assume some or all of the financial burden of the coordination function, as the Department of Human Resource Development (DHRD, the newly reconstituted CSES) has begun to take a larger view of their role in the employment function.

During the initial phases of development of transportation resources by the transportation agency, it is hoped that DHRD will strive to support and maximize the use of the new services to the extent possible without violating any equal treatment rules applicable to referrals (i.e., If it is possible, give special emphasis to placing West Oakland job seekers in the area where service is being offered). This is especially important during the implementation of Proposal #2, the West Oakland-Airport line.

Recommended Actions for City Council

Urge the Alameda-Contra Costa Transit District to revise their service routing within the West Oakland area in accordance with Proposal #1 of Chapter III.

Urge the Alameda-Contra Costa Transit District to submit an application and provide the necessary local share to obtain a Service Development grant (from the Department of Transportation) to cover 90% of the operating losses for a new peak hour line linking West Oakland with the Metropolitan Oakland International Airport and adjoining East Oakland industrial complex, as described in Proposal #2 of Chapter III.

Urge the Alameda-Contra Costa County Transit District to work diligently with the Bay Area Rapid Transit District to develop an equitable method of sharing revenues and, thereafter, to prepare to modify and extend routes to provide feeder service to all employment and residential areas from all BARTD stations. It should be recognized that perhaps the only completely satisfactory solution may be the creation of a new transit agency which acquires and operates all local transit within the region.

Recommended Actions for the West Oakland Planning Committee

The Model Cities Agency Community staff should be directed to monitor the status of the Department

of Labor Near Cities Job Corps proposal. As initially envisioned, it had a potential for providing peak hour transportation by driver-trainees at no cost. The following actions are called for in this regard: 1) determine who the contractor is and 2) develop a driver training proposal for implementation by the contractor.

The Model Cities Agency Community staff should be directed to monitor the progress of the Oakland School District's Model Warehousing proposal and work out an arrangement for possible goods delivery or servicing of vehicles as part of Proposal #4 when implemented.

The Transportation Commission of the West Oakland Planning Committee (appointed by the Executive Board to work with the City on the Urban Mass Transportation Technical Study) should be directed to develop Proposals #3 and #4 for implementation.

The Employment Subcommittee of the Model Cities Agency, as the most logical successor to the WOPC Transportation Commission, should be committed to following through on Proposals #3 and #4, in the event the Transportation Commission is not able to accomplish these tasks within the time constraints of the Model Cities program. In any event, the Employment and Physical Environment Subcommittees should be directed to support the Transportation Commission in achieving these tasks.

The Employment Subcommittees of the Model Cities Agency should be directed to assume the responsibility for working out the procedures for coordinating the potential transportation resources (to be developed under Proposals #2, 3, and 4) with the job_matching agencies, especially the Adult Opportunities Center. This would specifically include the investigation of possible cost sharing and supplemental funding.

APPENDIX I

SUMMARY OF PROJECT APPROACH

Survey Phase (Phase I) Elements

The first phase of the study was broken down into three components: people resources, job resources, and transportation resources. First the characteristics and potentials of the Target Area population were analyzed; then the types, numbers and location of jobs and their general training and skill requirements were analyzed; and finally, transportation resources were examined for deficiencies in service from the Target Area to areas with concentrations of appropriate jobs. A more minor but essential component of the study was a reconaissance of training resources and employment services within the City which link jobs and people.

The first phase of the study dealt with collecting and analyzing data generated primarily by other sources. The greatest part of the data was derived from Oakland's recently concluded 701 Program, supplemented by data from the Bay Area Transportation Study (BATS), Northern California Transit Demonstration Project (NCTDP), Alameda-Contra Costa County Transit District (A/C), Bay Area Rapid Transit District (BARTD), National Alliance of Businessmen (NAB) and the California State Employment Service (CSES). 701 Program data were the prime source on the characteristics of the Target Area residents. It was supplemented by County Welfare statistics, Concentrated Employment Program data and other material. Data on existing and future transit trips and times were extracted from the NCTDP study. This data was combined with travel data from Oakland's 701 Program and the BATS program. Information on employment distribution and type was derived from the BATS industrial employment inventory and the sample data and the industryoccupation matrix developed by the CSES for the Eastbay Manpower study produced as part of the 701 Program. Extensive information was gathered and mapped on A/C service as well as service provided by Greyhound, Peerless, and other transit operators.

Citizens throughout West Oakland also gathered in small groups to discuss their transportationemployment problems. Numerous charts and maps were generated, and the data consolidated for analysis in this effort.

In the above process, the characteristics of the West Oakland Target Area residents were compared to the characteristics of the Total Target Area population and the city wide population. Then their skills and qualifications were examined in light of employer's stated job entrance requirements for later use in determining what proportion might immediately benefit from transportation improvements in seeking employment. This data was also used in conjunction with an examination of job distribution to ascertain what areas had the greatest concentration of appropriate jobs, e.g.: those for which the majority of the Target Area population qualify.

The type and distribution of jobs were mapped and tabulated. Barriers to employment were then examined together with positive indicators of employer commitment to hiring the disadvantaged. An examination of job training and placement agencies was also made to better understand their structure and operation and how they relate to the unemployed.

Public transportation resources were then examined, including long distance carriers, to determine the level of service available within the entire job market area. Special attention was given to the service available or lacking in employment areas which were large and growing or which had large concentrations of jobs for which the unemployed of West Oakland qualify. Trial trips to outlying employment sites were also made to verify this second hand travel time data.

From this information the areas with the most significant transportation inadequacies were identified. All of this information was made available to the Citizens Committee (the Transportation Commission of the WOPC) and the other study participants in an effort to identify the areas with transportation inadequacies of greatest concern to the West Oakland

Community. The results of the Survey Phase (phase I) lead to the identification of transportation as a factor in the unemployment problem. (Complete information on phase I is contained in the report People, Jobs and Transportation.)

Solution Exploration Phase (phase II) Elements

The second phase of the study also was broken down into three basic components: Identifying problems of greatest concern; developing criteria for solutions; and developing and refining solutions.

The first phase revealed a wide range of areas which have inadequate service. The second phase of the study sought to focus on specific problems for solution. The first step was to hold a pair of meetings with the Citizen's Committee and other study participants to identify the specific transportation-employment problems which were of most concern to the West Oakland Community. The data, collected, analyzed, and shared with the Citizen's Committee in the first phase, was presented to this group. The group carefully considered these data and the findings of these series of Community study meetings held in phase I.

Some of the more significant implications debated, concerned outlying versus near in jobs (i.e.: Fremont versus Oakland). After a great deal of discussion, the Citizen's Committee selected four areas for further consideration. They were:

- 1. West Oakland itself and the adjoining industrial areas,
- 2. the Oakland International Airport and adjoining East Oakland industrial areas,
- 3. the auto assembly plants in Fremont and Milpitas, and
- 4. a area in which review of CSES data would disclose concentrations of firms requiring job applicants to have their own transportation.

¹The latter was dropped for lack of data.

Once the problem areas of greatest concern to the West Oakland community had been determined, a set of criteria was established to insure that transportation solutions both met the needs uncovered and reflected the desires of the community in meeting these needs. The criteria adopted are contained in Appendix II.

Ten families of solutions were then developed by the staff for consideration by the Citizen's Group. These solutions varied from simple extensions of A/C service to a possible community corporation to provide service to complement A/C service. A number of conclusions reached about the provision of transportation service as well as the adopted transportation criteria were instrumental in paring down the solutions to four. Two of these were communitybased proposals. Finally, as time and resources were too limited to permit the implementation of all four solutions, priorities for implementation were established by the Citizen's Committee. Due to the desire for immediate results community-based proposals were subordinated for two solutions to be undertaken within the framework of the A/C Transit District. Once the transportation resources had been developed, the organization for meshing the transportation resources with the job-matching agencies was discussed, as well as the strategy for carrying out the remaining objectives of the study.

APPENDIX II

TRANSPORTATION SYSTEM CRITERIA

OBJECTIVE OF SYSTEM

Criteria #1 - To remove transportation related obstacles to employment facing West Oakland residents and improve service for other needs.

QUALITY OF SERVICE

Routing Criteria #2 - Strive to

serve all relevant destinations, both concentrated

and dispersed.

Scheduling Criteria #3 - Scheduling

should seek to meet needs

at all times of day.

Transfer Criteria #4 - Required

transfers should be minimized but transfer regulations should allow use of all relevant resources.

Walking Distance Criteria #5 - Riders should

not have to walk more than 1/4 mile at either end of a

trip.

Trip Duration Criteria #6 - Limit trips

generally no more than 45 minutes with an absolute

1 hour.

Fare Criteria #7 - Fares should

be low enough and flexible enough to present no added obstacle to employment.

EQUIPMENT CONSIDERATIONS

Criteria #8 - Equipment should be fast and flexible enough to provide wide variety of service and exploit possible opportunities for multipurpose use of vehicles.

RELATIONSHIP TO EXISTING SERVICE

Criteria #9 - New service should be able to feed into or tap existing service wherever advantageous.

INSTITUTIONAL FRAMEWORK

Criteria #10 - New arrangement should increase residents ability to influence existing public transit agencies and to maximize potential economic benefits to the community derived from needed new forms of service.

INFORMATION AND MARKETING

Criteria #11 - Service information on all available modes and systems should be clear, accurate, complete, and readily available.

APPENDIX III

SPECIFICS OF RECOMMENDED ROUTE CHANGES WITHIN WEST OAKLAND (PROPOSAL #1)

Route 12 - Grand Avenue-Oakland Army Terminal

Buses would be rerouted to operate on 18th Street between Market and Cypress or Peralta Streets rather than along 14th and Peralta Streets as at present. Better spread of the east-west coverage would result in the area between 14th Street and Grand Avenue. Because the modified routing is slightly more direct, a small running-time advantage may be realized. The present route offers token service on Peralta Street between 14th and Grand, perhaps an appeasement to residents for loss of routes in connection with the opening of the West Grand Overpass. As described below, service on Peralta Street would be provided by Route 88, negating the need for service by Route 12 buses. The loss of Route 12 service on 14th Street between Cypress and Market should have no adverse effect, as local rides in that area could be handled by Route A and 14.

Eighteenth Street is wide enough to accommodate buses with no difficulty. The only point where traffic conditions could be a problem is at 18th and Cypress southbound where a left turn from or crossing of Cypress Street at an unsignalized intersection could result in some loss of time during peak periods. Eighteenth Street itself is not expected to generate much traffic, but its use will tap an area where coverage is poor, with little or no inconvenience to present riders and travel habits and no increase in cost.

Route 14 - Brookdale-Adeline-Emeryville

Two minor reroutings are suggested. With the operation of Route 88 along Peralta, the Route 14 job via 32nd, Peralta, MacArthur could be eliminated in favor of running straight through on Adeline Street between 14th and the MacArthur-San Pablo intersection. The Route 14A terminal loop, presently operated via MacArthur, San Pablo, and sharp

left onto Peralta, could be changed to operate via Adeline, through the Yerba Buena Transit Station, and San Pablo back to Adeline. The present layout zone on Peralta, south of San Pablo could be abandoned in favor of the transit station site. The purpose of this change is to facilitate better transfer connections to bridge lines serving the transit station. Persons traveling from West Oakland to Berkeley, for example, could accomplish the transfer at the same stop (Yerba Buena and Adeline in this case), instead of the one and one-half block walk required at present. Running time and mileage should be about the same or slightly less, due to the elimination of the jog mentioned previously. Ultimately 14A could be re-aligned to continue to the BARTD MacArthur Boulevard station.

Routes 83-83A - West Seventh-Oakland Army Terminal

Service to the 7th Street Marine Terminal during peak or shift-change hours is desired. It is suggested that consideration be given to extending certain trips now destined to 7th and Pine to the 7th Street Terminal. Such service might be designated Route 83C.

Also desired is consideration of a branch operating along Middle Harbor Road, 5th, Cypress, and joining the mainline at 7th and Cypress. Service would be on the same shift-change basis as Route 83C and could be designated as Route 83D. Considerable activity expansion has occurred along this area in recent years including new Seatrain facilities.

Route 83A trips to Oakland Army Terminal would remain the same as at present. Connections to Route 12 coaches for persons destined to points in the Army Terminal further north of Building 640 (83A Terminal) are convenient and any northward extension of Route 83A is not justified.

Route 88 - Market Street-SP Depot

It is proposed that the present 12th Street-SP Depot portion of this route be changed to provide service along most of Peralta Street, functioning as a second route to Yerba Buena and San Pablo.

Service to SP Depot would be continued, but operated as a branch with half of the Route 88 trips terminating there and half operating to Yerba Buena Transit Station. This operation would provide 30-minute service on each branch under present headways.

The Route would operate as at present as far as 10th and Union, then would continue via 10th, Cypress and 7th Streets to Peralta Street, then jogging across Cypress, MacArthur, and Adeline to Yerba Buena Station. Coaches would return via Peralta and generally the reverse of the above. Trips to SP Deport (probably designated 88A) would diverge at 12th and Peralta, thence 12th and Wood to SP Depot. Some route modification will be needed in any event as 12th Street is slated for closure near Cypress Street, and at least a portion of the proposed routing will become necessary.

Service would alternate between the two terminals during the base and generally during the peak; while night service on the present 30-minute headway would operate to Yerba Buena and San Pablo via the SP Depot (if service to the depot at night is warranted at all). Sunday operation would be the same as at night.

The suggested route extension would require one to two additional buses over present fleet and will increase bus miles and hours accordingly. However, increased operating costs would be offset by benefits of a direct route cohesively linking the predominate residential sections of West Oakland with employment sites in the community, in Emeryville, at the new postal facility at 7th and Peralta and downtown area. The revised service would be within a short walk of the new Health Center at 8th and Adeline. It would offer a time saving to persons destined to Berkeley and Richmond. In general, the route would introduce east-west mobility which is presently lacking. Existing routes are oriented predominatly on a north-south axis. The route also lends itself to future BARTD connections at the Oakland West Station and, with an extension, at the MacArthur Station.

APPENDIX IV

DESCRIPTION OF PROPOSED A/C TRANSIT EXTENSION TO

SERVE THE OAKLAND INTERNATIONAL AIRPORT FROM WEST

OAKLAND, INCLUDING OPERATING COSTS ESTIMATES

(PROPOSAL #2)

The specific route for the line selected depends in part on the response of the A/C Transit District to the route change proposals described in Proposal #1. If service is not extended down Peralta Street as proposed in Solution #1, then the new Airport line would have to be extended on its morning runs to start at San Pablo and Peralta rather than in mid-West Oakland. It would then continue along Peralta to 9th Street, jogging to 10th at Cypress, before going up Clay Street to 13th. Once in the Central District, it would go down Broadway to the Nimitz Freeway, making frequent stops along the way.

After roughly three miles of freeway travel commencing at Oak Street, the bus takes the 29th Street off-ramp, and serves the Owens-Illinois glass plant on Fruitvale and then jogs under the freeway at High Street onto Coliseum Way. The bus would make stops to serve quarter mile service radii from this point on, serving Coliseum Way, before crossing the Nimitz at 66th Avenue to Oakport, then serving Hassler and Edgewater Drives in the Port of Oakland Industrial Park. After turning west of Hegenberger, it serves the general aviation facility at the old airport before making its last stop at the new commercial passenger terminal. The return trip for the bus depends on its integration into regular tripper service. (Our cost estimates to be conservative, do not count on this though.) afternoon runs would be the reverse of the morning runs. A shuttle bus would intercept the direct airport line at 29th or Fruitvale Avenue and proceed out San Leandro Street to 98th Avenue in the morning and reverse the route in the afternoon.

The total cost of operating four runs to the Airport and four Fruitvale-98th Avenue shuttle runs in the morning between 6:15 and 8:30 a.m. and four West Oakland runs and four 98th Avenue-Fruitvale

shuttle runs in the evening between 3:30 and 5:50 p.m., five days per week would be in the neighborhood of \$84,000 annually. The anticipated average annual revenues were established to be \$14,000. It is anticipated that the initial annual operating loss of \$70,000 would diminish over a two year period to the break even point or to an acceptable subsidy level. It is expected that at this time the line will have developed a substantial patronage. It is quite likely that this line may be modified due to BART operation and the proposed BART-Airport service link. The line would then begin to function as a viable feeder loop within the unserved industrial subdivision, Port Industrial Park, and the general aviation facility. By this time, the line will have accomplished at least two things. It will have opened up job opportunities to the unemployed of West Oakland which are essentially inaccessible at present. It will have also developed a ridership for the BART-Airport link. This is in addition to providing service on a continuing basis to the unserved area west of the Coliseum BART station for which no service exists or is planned before or after BART.

APPENDIX V

OPERATIONAL DETAILS OF MULTI-PURPOSE VARIABLE ROUTE MINI-BUS (MuVR CONCEPT) I INCLUDING COSTS

The MuVR concept provides for both employmentoriented transportation service and service for other community needs. Examples of such community services are transportation to and from such places as training centers, welfare institutions, hospitals and clinics, and educational centers.

Proposed Service Description

The MuVR concept would utilize smaller vehicles than conventional public transportation; vehicles on the scale of the 11-passenger van or the 19-passenger minibus. Routes and schedules would be flexible in response to user demand and fluctuating daily needs; however, most of the patronage is anticipated on a subscription basis. In peak periods, the service would operate in defined corridors, always stopping at a number of designated locations and facilities but with small deviations from the base route possible upon demand. In the base period, the service pattern would change with vehicles operating in different and more broadly defined corridors. Radio control of vehicles would insure system response to non-subscription user demand.

Proposed Peak Period Service

Employment Target Areas selected for service by the proposed system are the Emeryville industrial area along Hollis Avenue and the Oakland Naval Supply Center - 7th Street Marine Terminal, areas with significant concentrations of blue collar jobs and currently employed West Oaklanders.

Linking West Oakland with these employment areas during peak periods might involve service on the three following basic routes:

I Operating data and costs developed by DeLeuw, Cather & Company.

Route A 7th Street Terminal - 7th Street - Peralta - Hollis - Emeryville employment area.

4.4 miles = 1 way distance

Route B 7th Street Terminal - 7th - Adeline -10th - Poplar - Peralta - Hollis -Emeryville target area.

4.8 miles = 1 way distance

Route C 7th Street Terminal - 7th - Market - San Pablo - 32nd - Hollis.

5.8 miles = 1 way distance

Peak Patronage Estimates

BATSC 1965 O-D data indicates that study area residents make approximately 7,600 work trips to and from the employment target areas to be serviced. This same data shows that less than 50 per cent of these trips are made by auto drivers indicating a high potential for transit usage.

Base Period Services.

Base period regular services would have the objective of improving circulation within the West Oakland community and providing access to certain large trip attractions on the community fringes now not adequately linked to West Oakland by public transit. Because of these differing objectives, base period service would operate over routes unrelated to the peak service routes.

One base period route, Route D, would have its western terminus in the vicinity of 7th and Cedar Streets and extend in a generally easterly direction through the West Oakland community with defined stops at such points as Campbell Village, community facilities such as the West Oakland Youth Opportunity Center, the OEDCI Job Development Center, supermarkets at Market Street and West Grand and at 27th Street and San Pablo Avenue, Sears Roebuck on 27th Street, and having its eastern terminus at the concentration of hospitals near Broadway and the MacArthur Freeway. Two vehicles would operate over

this route of approximately eight round trip miles, providing fifteen minutes headway service.

The second base period route, Route E, would encircle most of the West Oakland community following a loop roughly defined by Peralta, 32nd Street, Grove Street and 7th Street with deviations in response to demand. Two vehicles would be assigned to this loop of approximately six miles (including allowance for diversions) one traveling clockwise, the other counter-clockwise, providing twenty-minute headway service. Community facilities serving as designated stopping points along this route would include the West Oakland Health Care Center, Prescott Children's Center, West Oakland Adult Opportunity Project, Clawson Children's Center, North Oakland YMCA, and other facilities. Transfer points with Route D would be located at 7th and Peralta and at 27th and Grove.

Total Patronage Estimate

Total patronage for the proposed system was projected in the following manner:

BATSC 1965 O-D data indicates that exclusive of the work trips cited in the peak period analysis, study area residents make 33,000 persons trips (including walk trips) on an average weekday. In an area of this character, the service proposed can be expected to attract 5 to 6 per cent of the total daily person trips. Using the average 5.5 per cent, yields a daily patronage of 1,815. This coupled with the 1,140 work trips to the employment target areas gives a projected total daily patronage of 2,955.

Service Levels - Manpower and Vehicle Requirements

Assuming a round trip average speed of 17.5 MPH, each route would require about thirty-six minutes to make a round trip cycle (see Table below). Assuming the provision of maximum service as our design parameter and using 19-passenger equipment with a few standees allowed, if needed, the following route statistics result:

ROUTE	A-C	C-A	В
Round Trip Miles	10.2	10.2	9.6
Round Trip Running Time	. 36	36	35
Peak 20 Min. Passengers	51	50	51 = 152
Coaches Required	3	3	3
Seats Available	57	57	57 = 171
Load Factor	0.89	0.88	0.89 = 0.89
Average Headway	12	12	12

Assuming the provision of a reasonably high level of service within acceptable revenue bounds as our design parameter and using 19-passenger equipment with a few standees allowed if needed, the following modification to the above route statistics result for routes A and C:

ROUTE	A-C	C-A
Round Trip Miles	10.2	10.2
Round Trip Running Time	36	36
Coaches Required	2	2
Average Headway	20	20

Base service would consist of two routes on a different alignment from the peak routes. This arrangement will utilize four coaches. In addition, it is planned that one coach will be held "On Call" for use in transporting senior citizens to and from recreation centers. Depending on the level of peak period service, this leaves two or four coaches idle during midday.

Probable bus hours were computed for the maximum level of peak period service, assuming service would operate between 6 a.m. and 9 p.m.

It was estimated that there would be $96\frac{1}{2}$ bus hours per weekday which would require twelve operators. Additionally, two dispatcher shifts of seven and one-half hours each would be required in order to have a dispatcher on duty at all times when coaches are operating.

Use of 11-passenger vans in place of the 19-passenger buses increases the hours, vehicles and manpower requirements proportionally as shown in the following table:

ROUTE	A-C	C-A	В
Peak 20 Min. Passengers	51	50	51 = 152
Coaches Required	5	5	5 = 15
Seats Available	55	55	55 = 165
Average Headway	7	7	7
Load Factor	0.93	0.91	0.93 = 0.92

If fifteen 11-passenger coaches are required in the peak, at least ten should be utilized in the base to balance out drivers' assignments. It is estimated that twenty drivers would be required to operate roughly 160 hours - an increase of 78 per cent over 19-passenger vehicle operation.

Summary of Cost and Revenue for MuVR Concept

Costs and revenue data were developed for two sizes of bus and three different types of service (i.e., peak hour, peak and base (midday), and peak, base and senior citizen). The operating characteristics of each type of service is summarized below by size of bus with two levels of peak service for the 19-passenger buses:

Summary of MuVR Operating Characteristics

Peak Hour Service:	Drivers	Hours of Service per day	Miles of Operation (Annual)	Headways (Minutes)
Nine 19- Passenger Buses:	9	6½	247,500	12
Seven 19- Passenger Buses:	7	6½	192,,500	20
Fifteen 11- Passenger Buses:	15	6½	412,500	7
Base (Midday) Service:	Additional Drivers	Hours of Service per day	Miles of Operation	Headways (Minutes)
Nine 19- Passenger Buses:	4	10	170,000	15-20
Seven 19- Passenger Buses:	4	10	170,000	15-20
Fifteen 11- Passenger Buses:	4	10	170,000	15-20
Senior Citizens Service:	Additional Drivers	Hours of Service per day (Avail.)	Miles of Operation (Annual)	Headway
Nine 19- Passenger Buses:	1	6	20,000	On Call
Seven 19- Passenger Buses:	1	6	20,000	On Call
Fifteen 11- Passenger Buses:	This size v		recommende	d

Operating Costs

Operating costs were likewise developed for two sizes of bus (the 11-passenger "van" type bus and the 19-passenger "mini" bus) for three types of service. and two levels of peak service. Total cost for operating the peak hour service was estimated to be \$153,085 for the 9-units of 19-passenger buses, \$112,135 for the 7-units of 19-passenger buses and \$231,517 for the 11-passenger vehicles. Addition of midday service added another \$67,043 to these costs, yielding a total of \$220,128 for the 9-units of larger buses, \$179,178 for 7-units of the larger buses, and \$298,560 for 15-units of the smaller. Costs for senior citizens bus service were calculated only for the 19-passenger bus, since it was felt that the 11-passenger vehicle would be too small for this purpose; when the \$12,136 marginal cost of the senior citizen service is added to the peak and midday figure for the 19-passenger bus, the result is a total cost of \$232,264.

Operating Revenue

Using patronage estimates of 1,140 for peak hour service and 1,815 for midday service (developed earlier) revenues were projected assuming both a 20¢ and a 25¢ fare, irrespective of size of vehicle. Rates above the 25¢ level were not considered in view of the study objective to provide low-cost transportation; such fares would also not be comparable with those of A/C Transit. In addition, the assumption of an inelastic demand would become increasingly less accurate.

Total revenue for peak hour service is estimated at \$57,000 and \$71,250 at the 20c and 25c fares; base period service would add \$90,750 and \$113,438 resulting \$147,750 and \$184,688 in reciepts for the 20c and 25c fares respectively. Senior citizen revenue, at 30c per round trip, was estimated to be \$8,200 which brings the total for the 20c fare to \$155,950 and \$192,888 for the 25c fare.

Cost-Revenue Comparisons

The annual net costs for operating the proposed optimum mini-bus service under different fares and types of service are summarized below.

ANNUAL COSTS AND REVENUES FOR MUVR

		k Hour Servi	
	Revenue	Expenses	Net Profit
Seven 19- Passenger Buses @ 25¢	\$ 71,250	\$ 124,928	\$ (53,678)
Nine 19- Passenger Buses @ 20¢	57,000	153,085	(96,085)
Nine 19- Passenger Buses @ 25¢	71,250	153,085	(81,835)
Fifteen 19- Passenger Buses @ 20¢	57,000	231,517	(174,517)
Fifteen 19- Passenger Buses @ 25¢	71,250	231,517	(160,267)
		ik and Base S	
	Revenue	Expenses	Net Profit
Seven 19- Passenger Buses @ 25¢	184,688	191,971	(7,283)
		171,771	(7,203)
Nine 19- Passenger Buses @ 20¢	147,750	220,128	(72,378)
Passenger	147,750 184,688	·	
Passenger Buses @ 20¢ Nine 19- Passenger	·	220,128	(72,378)

	Peak, Base Revenue	and Senior Expenses	Citizen Service Net Profit
Nine 19- Passenger Buses @ 20¢	\$ 155,950	\$ 232,264	\$ (76,314)
Nine 19- Passenger Buses @ 25¢	192,888	232,264	(39,376)

Evaluation

The above table clearly shows the advantage of the 19-seat bus over the 11-passenger bus under the recommended system. Also illustrated is the fact that, once the bus system has been set up to operate the peak hour service, it is advantageous to also operate the base (midday) service since revenue is increased by 158 per cent, while expenses are increased by only 30 to 40 per cent, and a profit of \$46,395 reduces the operating deficit by approximately 30 to 50 per cent with optimum service using 19-passenger buses. If somewhat less than optimum service is provided (seven 19-passenger buses) the deficit is almost eliminated. The advisability of also operating the senior citizen service is not as clear. Because a net loss of about \$3,936 would be incurred, the operation cannot be recommended on an economic basis; the total operating deficit would be increased by 5 to 10 per cent. In view of the fact that the incremental cost would be relatively small, the addition of the senior citizen service may be justified on social or other bases, however, this is beyond the scope of the present discussion.

Cost of Capital Items

Types of equipment that would be needed for operation of the proposed variable route mini-bus service and their prices were collected and analyzed. Among the equipment determined necessary are: buses, fare-boxes, radio equipment and office equipment.

Two sizes of buses were considered -- an 11-passenger "van" type bus, and a 19-passenger "mini" bus. On the basis of the rule of 10 to 20 per cent spares, it was determined that 17 of the van-type buses (15 + 2 spares) and 11 of the mini-type buses (9 +2 spares) would be required for optimum service. Only nine of 19-passenger buses are required to provide somewhat less than optimum service. There are at least three manufacturers of the van-type bus--General Motors, Chrysler and Ford, whose products are competitively priced. At about \$4,000 per vehicle, total cost for the required fleet of van-type buses would be \$68,000. There are three primary domestic manufacturers of 17-19 seat buses--The Flxible Company, Highway Products, Inc. and Minibus, Inc. Unit cost varies from about \$13,000 to \$21,000 depending upon manufacturer and equipment. In determining total cost for the required number of 19-passenger buses, the base price for Flxible Company's Flxette model (\$13,500) was used; total cost is thus \$148,500, or \$141,500 for 9-units.

Farebox equipment varies in price from about \$150 to over \$800 each. An average price for the least expensive models was devised--\$200 per unit. For the 17-unit fleet of van-type buses, total cost would be \$3,400, \$2,200 for the 11-unit mini-bus fleet, and \$1,800 for the 9-unit mini-bus fleet.

Necessary radio equipment would consist of a base station and one mobile unit for each bus operated. A figure of \$4,000 was used for base station acquisition and installation, and \$1,000 for each mobile unit. Total radio costs amount to \$15,000, \$13,000, and \$21,000 for the 11 or 9 large and 17 small unit capacity bus systems respectively.

It was estimated that the needed office equipment could be purchased used for a total of \$550.

Total cost for all equipment necessary to commence operations is estimated to be \$92,950 for the 17-unit 11-passenger bus fleet, \$166,250 for the 11-unit 19-passenger bus fleet and \$136,850 for the 9-unit 19-passenger bus fleet. Assuming a salvage value in five years of \$16,800 for the 17-unit 11-passenger bus fleet, \$24,300 for the 11-unit

19-passenger bus fleet, and \$20,000 for the 9-unit 19-passenger bus fleet, annual depreciation (over a five-year period) would be \$15,230, \$28,390, and \$23,370 for the respective bus fleets.

Recommendation of Bus Size

On the basis of operating costs, the 19-passenger bus fleet (for the proposed peak and midday system, assuming a 25¢ fare) is about 70 per cent less than that of the 11-passenger bus. Even when annual depreciation is added to the operating costs, the larger sized buses are still about 50 per cent less costly than the smaller buses.

Even considering the 11-passenger buses' advantages of more frequent service and slightly greater maneuverability, the 19-passenger size is recommended on the basis of its smaller operating costs.

APPENDIX VI

DESCRIPTION OF TRANSPORTATION RESOURCES POSSIBLE UNDER COMMUNITY-BASED, NON-PROFIT TRANSPORTATION CONGLOMERATE (PROPOSAL #4)

In order to develop and maintain a wide variety of transportation resources, a community-based corporation is proposed. In its ultimate stage, it would undertake some transportation-related functions which would generate a profit to offset the losses encountered in providing the transportation resources needed by the Community. Some of the resources which might be developed are the following:

Car-Pool Registry and Marshalling Service

One of the least expensive methods of providing transportation, though admittedly tough to regulate. is through the development of a car-pool registry. The registry would contain the names, address, place and hours of work, and the share of costs expected by the prospective driver who is willing to participate in the car-pool. Car-pool coverage information is provided to the job matching agency as a resource to be drawn upon as needed. The availability of a ride is verified and specific arrangements are made by the transportation agency. If no other transportation resources are available and no registrant exists to serve the new hire, he would not be referred to the job; this is the present practice. However, if additional resources are available, an interim form of transportation might be provided, and an appeal would be made at the particular firm for potential car-pool registrants to fill the need.

The cost involved in the development and maintenance of the registry could be minimal. The major expense would be advertising and mailing costs. The files might be self-purging on a regular basis. Manpower for maintaining the registry could be on a volunteer basis or some service agency might be persuaded to take on the task.

One drawback to car-pools is that, if one member of

the car-pool is late, all may be late to work. Worse still, if the driver is ill, all may be absent from work. This is a frequent criticism of carpools by employers. With some proper ground rules and imagination on the part of the personnel operating the car-pool registry and marshalling operation, many of these pitfalls can be be avoided. One practice is to have both passengers and drivers check in at a centrally located dispatching point. Late or absent drivers may be replaced with temporary substitute drivers, or depending on the resources of the agency, some alternate form of transportation might be substituted on an emergency basis.

Mini-Buses with Driver-Workers or Driver-Deliverymen

For areas with single large employers, or plants in a fairly tight cluster, small vans could be used for less than bus load needs. A fairly modest investment is required for equipment. Used or leased vehicles could cut initial investment, but used vehicles could raise the maintenance costs. Two problems to be resolved for the success of this proposal are the off-peak use of the driver and vehicle.

The normally high operating costs of regular passenger service could be cut by paying an employee of one of the outlying firms to drive the van to and from the place of work. The van in this case would then be underused. If the transportation agency also engaged in off-peak delivery of goods, the van could be used in the peak hours to carry passengers and then put into service to carry merchandise. The Oakland School District Continuing Education Division recently proposed a "Model Warehousing" project which could be integrated with this proposal. The Model Warehousing project deals specifically with the warehousing of goods from a group of manufacturers. The distribution of these goods could be easily handled by the transportation agency. Many of today's small vans offer as a regular feature the ability to quickly convert from passenger to goods handling. In either case, fares would be developed to cover as much of the costs as possible. In the case of dual use of the vehicle, a small surplus

could be developed to subsidize new hires until they were able to pay (e.g., approximately two weeks) with some allowance for no-payment dropouts. Vans of this type could also provide interim transportation while car-pool arrangements could be made for new hires. This proposal would tie into and may be the outgrowth of the variable route mini-bus described in Solution #2.

Conglomerate Transportation Service Operation

Third phase in the operation of the community based transportation agency is developing a capacity to accrue some profit that can be used to offset the operating losses accumulated in providing transportation resources. One of the first steps in this more ambitious undertaking involves leasing a surplus trade school facility equipped for motor vehicle repair and maintenance (Laney Trade School). Manpower Development and Training funds would be sought to train the new personnel in repair and servicing, working under the supervision of automotive specialists. The Continuing Education Division of the Oakland School District could provide the experienced instructors under MDTA funding. A permanent staff as well as a large number of training positions would be established to upgrade and maintain vehicles. Contract servicing and maintenance would be sought from various firms who maintain transport vehicles. Other used vehicles could be purchased, perhaps with a Small Business Administration loan, and rebuilt as transportation resources. Acquisition of abandoned vehicles has been explored in this regard. Present State law provides that in most cases abandoned vehicles can be used only for parts and scrap. To secure these vehicles, the current procedures for letting towing contracts must be modified. There appears to be no real barrier to this as most towing companies are not interested in abandoned vehicles.

Acquired vehicles could be leased, used in carpools, or sold on a lease-purchase plan to job
placees. Other larger vehicles could be used for
long haul or variable route transport service.
Guaranteed maintenance of the vehicles would be

tied into the lease or sale of vehicles (a type of prepaid service warrantee). The larger vehicles would be put into service with driver trainees cross-trained as repairmen. Some restored vehicles could be sold to the general public when and if a surplus was developed. Here the repairmen could double as salesmen as well as peak-hour drivers.

An adjunct to the above program might be the development of a loan agency aimed at the middle-risk borrower. The interest rate would be more than banks but less than loan sharks. This program together with the guaranteed maintenance provision of vehicle sales would go a long way toward increasing mobility on a long term basis, as many individuals lose their mobility through tough credit procedures and lack of funds to maintain their cars when something goes wrong with them. Ultimately many lose their jobs this way.

Another important area to be pursued is that of trying to obtain group insurance rates from a major insurance company who might want to join the war on poverty. Success in this endeavor would have a large spin-off value to all of the other proposals.

Optimum Transit Routing Information

If the conglomerate transportation corporation is developed, then the transportation agency should also assume the information function for A/C Transit routes as well. The agency would then maintain a matrix for determining optimum A/C Transit routing, using origin and destination coordinates from a special street directory. A/C Transit might be expected to pay all or the greatest portion of the costs for developing the computer program and transit line descriptions for input to the computer.

A/C Transit might wish to turn over its route information function to the transportation agency and pay for its support. This would achieve two things. While the public could still get transit routing information, the employment matching agency could get more information at the same location as needed without calling two different agencies. In the long range, when calls came in from the public

for which there was no A/C Transit service available, the operator could arrange for suitable transportation through the transportation agency resources.

It would appear that the DHRD might be able to assume some or all of the costs of providing the coordination function between the transportation and their operation. One of the first questions to be explored by the transportation agency would be how to share the costs of coordinating transportation resources and job matching and the costs of other functions.

There are numerous pitfalls that must be anticipated in such a proposal:

- 1. Union operating procedures could be one of these.
- 2. Programming the optimum use of vehicles requires real expertise
- 3. As new employees buy cars and pull other riders off into car-pools, patronage on various sponsored services could fluctuate widely. Monthly rates charged in advance could allow some lead time in rerouting and rescheduling, but more is clearly needed here.
- 4. Seeking out qualified people for the top jobs may be a tough job.

As far as the structure for the community-based corporation is concerned, the Legal Aid Society has already done some work in this area in connection with another endeavor. A set of how-to steps will hopefully be developed for the group to follow in this regard when the Model Cities Agency tackles this problem.

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